



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

C 8

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,461	02/26/2002	Andrew S Treen	124-926	3390
23117	7590	10/06/2003	EXAMINER	
NIXON & VANDERHYE, PC			SMITH, RICHARD A	
1100 N GLEBE ROAD				
8TH FLOOR			ART UNIT	PAPER NUMBER
ARLINGTON, VA 22201-4714			2859	

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/069,461	TREEN ET AL.
	Examiner R. Alexander Smith	Art Unit 2859
<b>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</b>		
<b>Period for Reply</b>		
<b>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.</b>		
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.		
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.		
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.		
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).		
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).		
<b>Status</b>		
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>01 July 2003</u> .		
2a) <input checked="" type="checkbox"/> This action is FINAL.                            2b) <input type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.		
<b>Disposition of Claims</b>		
4) <input checked="" type="checkbox"/> Claim(s) <u>2-23</u> is/are pending in the application.		
4a) Of the above claim(s) _____ is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>2-23</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.		
<b>Application Papers</b>		
9) <input type="checkbox"/> The specification is objected to by the Examiner.		
10) <input checked="" type="checkbox"/> The drawing(s) filed on <u>26 February 2002</u> is/are: a) <input type="checkbox"/> accepted or b) <input checked="" type="checkbox"/> objected to by the Examiner.		
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
11) <input checked="" type="checkbox"/> The proposed drawing correction filed on <u>01 July 2003</u> is: a) <input checked="" type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner.		
If approved, corrected drawings are required in reply to this Office action.		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
<b>Priority under 35 U.S.C. §§ 119 and 120</b>		
13) <input checked="" type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).		
a) <input checked="" type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of:		
1. <input type="checkbox"/> Certified copies of the priority documents have been received.		
2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.		
3. <input checked="" type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).		
* See the attached detailed Office action for a list of the certified copies not received.		
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).		
a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.		
15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
<b>Attachment(s)</b>		
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____.		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
6) <input type="checkbox"/> Other: _____.		

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "flexible indicator diaphragm" in line 2 of claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. It appears to the examiner that none of the embodiments shown show an indicator diaphragm that is flexible. The drawings appear to address the indicator diaphragm as being in the same linear condition even when the pressure has changed.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2859

3. Claims 14, 17, 19 and 20 are finally rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 4,722,451 to Conrad.

Conrad discloses a flexible pressure indicator having a display diaphragm (34) and a flexible indicator diaphragm (32) bearing a recognizable configuration or pattern (20), the display and indicator diaphragms respectively forming first and second opposing outer surfaces of the pressure indicator, said diaphragms forming a compartment within the indicator, a change in pressure applied to at least one of the outer surfaces (at 18) causes relative movement between the diaphragm such that at a certain degree of compression, the pattern or configuration becomes visible through the display diaphragm (figure 4), at least one of the display diaphragm and the indicator diaphragm comprises a flexible polymer (diaphragm 32 and column 56-62) and an elastomer, and a method of indicating fluidic or mechanical pressure using a pressure indicator of claim 19 (figures 1 and 2 versus figures 3 and 4).

4. Claim 23 is finally rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 4,877,143 to Travisano.

Travisano discloses the limitations of claim 23 when the display diaphragm is 15, the indicator diaphragm is 12 and the recognizable configuration or pattern is as described in column 3, lines 24-52.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7, 10, 14, 17 and 19-21 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,877,143 to Travisano in view of U.S. 5,827,429 to Ruschke et al.

Travisano discloses a flexible pressure indicator having a display diaphragm (11) and a flexible indicator diaphragm (12) bearing a recognizable configuration or pattern (column 3, lines 24-53 and figure 1), the display and indicator diaphragms respectively forming first and second opposing outer surfaces of the pressure indicator, said diaphragms forming a compartment within

Art Unit: 2859

the indicator, a change in pressure applied to at least one of the outer surfaces (at the indicator diaphragm) causes relative movement between the diaphragm such that at a certain degree of compression, the pattern or configuration becomes visible through the display diaphragm, the display diaphragm is transparent, the recognizable configuration or pattern comprises a symbol or graphic (opened in figure 1) projecting from the surface of the indicator diaphragm, either the display diaphragm or the indicator diaphragm (column 3, lines 19-23) comprises a flexible polymer, at least one of the diaphragms comprising an elastomer, the display diaphragm being a lenticular material upon a certain amount of compression becomes transparent to reveal the image on the indicator diaphragm, and a method of indicating fluidic or mechanical pressure (column 2, lines 28-53).

Travisano does not disclose the display diaphragm as being flexible.

Ruschke et al. discloses a device under pressure which employs transparent plastic and discloses that a variety of transparent plastics (column 5, line 61 through column 6, line 9) having differing degrees of visibility can be used based on their flexibility or brittleness and the associated durability based on the pressures to be employed. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the transparent plastic display diaphragm, taught by Travisano, as a flexible display diaphragm, as suggested by Ruschke et al., since Ruschke et al. discloses that the type of display diaphragm, i.e., flexible, not unduly brittle, or durable, can be used in the alternative and since it would have been obvious to one of ordinary skill in the art at the time of the invention that a flexible display diaphragm would not tend to break or crack if the bottle or container to which the pressure indicator is attached is dropped or impacted.

Art Unit: 2859

7. Claims 2-5, 7-9, 14, 17, 19 and 20 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,189,979 to Popenoe in view of U.S. 5,827,429 to Ruschke et al.

Popenoe discloses a flexible pressure indicator having a display diaphragm (transparent window 21) and a flexible indicator diaphragm (16) bearing a recognizable configuration or pattern (20), the display and indicator diaphragms respectively forming first and second opposing outer surfaces of the pressure indicator, said diaphragms forming a compartment within the indicator, a change in pressure applied to at least one of the outer surfaces (at the indicator diaphragm) causes relative movement between the diaphragm such that at a certain degree of compression, the pattern or configuration becomes visible through the display diaphragm, a means to amplify the relative movement between the diaphragms which results from the change in pressure (16 with 20), the means to amplify the change in pressure comprises an article having a first surface (top surface of 20) and a second surface (the bottom surface of 16), the second surface having a larger cross sectional area than the first surface; wherein the first surface is in fluid communication with one of the diaphragms and in use, a change in pressure applied to the second surface causes an amplified movement of the first surface, the first surface comprises the indicator diaphragm (again, 16 with 20), a rigid structure (threaded ring 19) and means for biasing the second surface against the rigid structure (column 3, lines 23-26 via the o-ring's 17 resistance to the compression created by the rigid structure 19 which helps the o-ring's sealing properties), the display diaphragm is transparent, the compartment contains a liquid or gel (27) wherein the liquid or gel is at least partially opaque, and either the display diaphragm (column 3, lines 48-52) or the indicator diaphragm (column 3, lines 16-22) comprises a flexible polymer, and at least one of the diaphragms comprising an elastomer (column 3, lines 16-22).

Art Unit: 2859

Furthermore, Popenoe discloses an indicator diaphragm bearing a recognizable configuration or pattern having a component wherein the component is colored and discloses that the display diaphragm (transparent window 21) can be molded from plastic (column 4, lines 22-25).

Popenoe does not disclose the display diaphragm as being flexible and the method steps of claim 17.

Ruschke et al. discloses a device under pressure which employs transparent plastic and discloses that a variety of transparent plastics (column 5, line 61 through column 6, line 9) having differing degrees of visibility can be used based on their flexibility or brittleness and the associated durability based on the pressures to be employed. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the transparent plastic display diaphragm, taught by Popenoe, as a flexible display diaphragm, as suggested by Ruschke et al., since Ruschke et al. discloses that the type of display diaphragm, i.e., flexible, not unduly brittle, or durable, can be used in the alternative and since it would have been obvious to one of ordinary skill in the art at the time of the invention that a flexible display diaphragm would not tend to break or crack if the pressure indicator is dropped or impacted.

With respect to claims 17, the method steps of indicating fluidic or mechanical pressure using said pressure indicator will be met during the normal operation of the indicator disclosed by Popenoe.

8. Claim 6 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Popenoe and Ruschke et al. as applied to claims 2-5, 7-9, 14, 17, 19 and 20 above, and further in view of U.S. 3,738,311 to Appleton.

Art Unit: 2859

Popenoe and Ruschke et al. together teach all that is claimed as discussed in the above rejections of claims 2-5, 7-9, 14, 17, 19 and 20 except for the biasing means comprising one of a spring and elastomeric material.

Appleton discloses that O-rings are elastomeric (abstract) in order to provide a proper seal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the O-ring, taught by Popenoe and Ruschke et al., as one of a spring and elastomeric material, as suggested by Appleton, in order to form a proper seal.

9. Claims 10-13 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Popenoe '979 and Ruschke et al. as applied to claims 2-5, 7-9, 14, 17, 19 and 20 above, and further in view of U.S. 3,602,186 to Popenoe.

Popenoe '979 and Ruschke et al. teach all that is claimed as discussed in the above rejections of claims 2-5, 7-9, 14, 17, 19 and 20 except for the limitations of claims 10-13.

With respect to claim 10, 11 and 13: Popenoe '186 discloses a pressure indicator wherein the recognizable configuration or pattern comprises a symbol or graphic projecting from the surface of the indicator diaphragm towards the display diaphragm (see 11" in figure 5), the configuration or pattern comprises at least two components (each of the steps of disc 11" in figure 5) wherein each said component contacts the display diaphragm at different pressures in order to accommodate a broader range of pressures that can be applied, and wherein the at least two components have different visibility (via the step sizes of disc 11", the larger sizes being more visible than the smaller.) Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to alter the indicator diaphragm, taught by Popenoe '979 and

Art Unit: 2859

Ruschke et al., by adding the features of the recognizable configuration or pattern projecting and having at least two components, as taught by Popenoe '186, in order to allow a person to adjust the pressure within a broader range of values and to gauge that range via the different visibilities.

With respect to claim 12, i.e., the at least two components have different colours:

Popenoe '979 discloses an indicator diaphragm bearing a recognizable configuration or pattern having a component wherein the component is colored. Popenoe '186 discloses at least two components. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add a different color to each of the at least two components for a multiplied effect, in order to make each distinct pressure within the range, taught by Popenoe '979 and Ruschke et al. as modified by Popenoe '186, more obvious to the user.

10. Claims 15, 16, 18 and 22 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,755,634 to Huang in view of U.S. 5,189,979 to Popenoe in view of U.S. 5,827,429 to Ruschke et al.

Huang discloses a ball having a pressure indicator, an inflatable object comprising a pressure indicator and an apparatus comprising a fluid reservoir and a pressure indicator, said apparatus being inflatable (27), said pressure indicator being electrical.

Huang does not disclose a pressure indicator with the limitations of claim 19.

Popenoe discloses a flexible pressure indicator having a display diaphragm (transparent window 21) and a flexible indicator diaphragm (16) bearing a recognizable configuration or pattern (20), the display and indicator diaphragms respectively forming first and second opposing outer surfaces of the pressure indicator, said diaphragms forming a compartment within the

indicator, a change in pressure applied to at least one of the outer surfaces (at the indicator diaphragm) causes relative movement between the diaphragm such that at a certain degree of compression, the pattern or configuration becomes visible through the display diaphragm. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the electric pressure indicator, taught by Huang, with the pressure indicator, taught by Popenoe, in order to (1) eliminate the need for a battery, (2) to prevent the pressure indicator from not working due to a dead battery, and to allow the ball and apparatus to be used in inclimate weather such as rain or under adverse conditions presented by puddles (water in general) or on the beach (salt contained in ocean water).

Ruschke et al. discloses a device under pressure which employs transparent plastic and discloses that a variety of transparent plastics (column 5, line 61 through column 6, line 9) having differing degrees of visibility can be used based on their flexibility or brittleness and the associated durability based on the pressures to be employed. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the transparent plastic display diaphragm, taught by Huang as modified by Popenoe, as a flexible display diaphragm, as suggested by Ruschke et al., since Ruschke et al. discloses that the type of display diaphragm, i.e., flexible, not unduly brittle, or durable, can be used in the alternative and since it would have been obvious to one of ordinary skill in the art at the time of the invention that a flexible display diaphragm would not tend to break or crack when the ball or inflatable object is bounced, dropped or impacted.

***Response to Arguments***

11. Applicant's arguments submitted 1 July 2003 have been considered but are moot in view of the new ground(s) of rejection.

With respect to the Examiner's objections to the specification and the Applicant's discussion regarding arrangement: The examiner thanks the applicant for the information and will note this for future PCT submittals.

With respect to U.S. 5,189,979 to Popenoe: The arguments are moot in view of the new definition applied by the examiner for the display diaphragm.

With respect to the ball or inflatable object and Popenoe: this argument is not persuasive since Popenoe does not appear to disclose that the device is of heavy metal. The only discussion the examiner can locate regarding material is about the indicator diaphragm and Popenoe discloses that the material is dependent on the pressures being measured, e.g., spring steel for high or plastic for low.

With respect to Popenoe '979 in view of Popenoe '186: The applicant's arguments are not persuasive since Popenoe '186 was used for the teaching of the recognizable configuration or pattern as having at least two components, and not for the type of window or diaphragm.

Art Unit: 2859

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Popenoe '186 discloses that a configuration or pattern can have at least two components to accommodate a wider range of pressures. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to alter the indicator diaphragm having a recognizable configuration or pattern, taught by Popenoe '979, by adding the features of the recognizable configuration or pattern having at least two components, as taught by Popenoe '186, in order to allow a person to adjust the pressure within a broader range of values and to gauge that range via the different visibilities, as taught by Popenoe '186.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of

Art Unit: 2859

the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related indicators, apparatus, and methods.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Smith whose telephone number is (703) 305-0647. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800

RAS  
September 22, 2003